Our comments:

The vertical solarium being claimed herein is intended for UV-irradiating of human's cutaneous covering with the user assuming the standing posture.

When designing the solarium being claimed it has been assumed that the user, while in erect position, corresponds, as to overall dimensions, to a conventional circular cylinder 500 mm in diameter which will hereinafter be referred to as "conventional absorber".

The vertical solarium being claimed herein comprises a cylinder-shaped body 4 (Fig.5) provided with power supply and control systems (not shown) and having 'n' elongated tubular lamps 1, e.g., fluorescent lamps for taking sunless tan, each being 2 m long and having an electric power of 180 W.

Lamps 1 are mounted inside the body 4 lengthwise the walls thereof and are spaced apart at an equal angular pitch round the axis of the body 4.

Complementary to the lamps 1 the body 4 accommodates a reflector 3 disposed proximately to the lamps 1 between them and the vertical walls of the body 4.

According to the invention, the reflector 3 has an integral closed surface and is installed in the body 4 coaxially therewith. The integral closed surface of the reflector 3 comprises 2*n* first-kind (ВГД) and second-kind (АБВ) gently mated alternating surfaces.

Each first-kind (ВГД) surface is disposed immediately behind each lamp 1.

Each second-kind (АБВ) surface is interposed between each pair of the neighboring lamps 1.

Each first-kind (ВГД) surface in a cross-section appears as part of the two branches of an involute of the curve, the spinode inclusive, which bounds the cross section of the lamp 1. The spinode of said involute lies on the extension of a

segment of the straight line connecting the longitudinal axis of the body 4 to the longitudinal axis of that lamp behind which the given first-kind surface of the reflector 3 is disposed.

The first-kind (ВГД) surface of the reflector 3 is established by moving the straight line parallel to the longitudinal axis of the body 4 lengthwise said involute.

Each second-kind (АБВ) surface in a cross-section appears as part of the two branches of an involute of the curve which bounds the cross section of the conventional absorber 2.

The second-kind (АБВ) surface of the reflector 3 is established by moving the straight line parallel to the axis of the body 4 lengthwise said involute of the curve bounding the cross section of the conventional absorber 2.

On the integral closed surface of the reflector 3, according to the present invention, the point of tangential connection of the involute of a curve bounding the lamp cross section and the involute of a curve bounding the cross section of the conventional absorber, is the point of intersection of a common tangent drawn to the conventional absorber 2 and to the lamp 1 so that said tangent every time intersects the straight line, whereon lie the center of the absorber and that of the respective lamp.

Provision of the reflector 3 appearing as the portions of the aforesaid involute cylinder-shaped surfaces is due to the fact that any tangent drawn to an evolute is in fact the normal to an involute. The foregoing implies that when the reflector 3 has the aforesaid involute cylinder-shaped surfaces, not any light ray emitted by the lamp will be reflected back onto said lamp and, accordingly, a maximum amount of light rays will be reflected onto the absorber, that is, onto the user.

The vertical solarium disclosed herein functions as follows. A preselected UV-irradiation mode of human's

cutaneous covering with the user assuming the standing posture is set using the power supply and control systems, whereupon the lamps 1 are turned on. As a result, there are incident upon the conventional absorber 2 (i.e., the user) both the radiation emitted directly by the lamp 1 and the radiation returned by the reflector 3 having an integral closed surface consisting of first-kind gently mated alternating surfaces which appear in a cross section as the involute of a curve bounding the lamp cross section, and second-kind surfaces appearing as the involute of a curve bounding the cross section of the conventional absorber 2.

It is due to the present invention that the proposed construction arrangement (shape) of the reflector 3 and the orientation thereof provide for maximum utilization efficiency of radiation of each lamp. Moreover, each first-kind surface of the reflector 3 prevents reflection of light rays back onto that lamp behind which said surface of the reflector 3 is located; and each second- kind surface of the reflector 3 provides for a total reflection onto the conventional absorber 2 of all the light rays emitted by the lamps provided in the vertical solarium.

In view of the foregoing, there is provided reflection onto the conventional absorber/the user a total amount of radiation emitted by the lamp, whereby the amount of lamps required may be reduced 3.5 times, the attainment of an equivalent effect remaining unaffected.